Annual Report 1990

91-05345/

MISSION STATEMENT

... to elevate secondary processing and value-added activities within the agricultural and fisheries sectors of Prince Edward Island through provision of technical services.

In addition, to provide research and development leadership supporting innovation and integration of products, processes and technologies which enhance the competitiveness and capacity of Prince Edward Island's agricultural and fisheries sectors.

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MESSAGE FROM THE CHAIRMAN

George D. Wright

The past year has been one of change and development for the P.E.I. Food Technology Centre as we moved from an office operation to our new facility and actual hands-on application of research and development.

Several milestones were met during the year beginning with an official sod turning ceremony on April 14th, 1989 and culminating with our Official Opening and Open House on March 2, 1990. During the ceremony, a plaque and cornerstone were unveiled by Hon. Elmer MacKay, Minister Responsible for the Atlantic Canada Opportunities Agency, Hon. Joseph A. Ghiz, Premier of Prince Edward Island, and Tim Carroll, who was Provincial Minister of Agriculture from 1986 - 88. Local, regional and federal dignitaries participated in the ceremony and FTC's technical staff conducted tours for about 2,000 Islanders who turned out to see what the Centre was all about. The very large attendance at our Open House was a reflection of the interest and expectations that the general public have in our operation.

The new 15,000 sq. ft. facility on the campus of the University of Prince Edward Island allows the Centre to conduct on-site food research and development for its clients and to advance research initiatives in food science. The facility incorporates organoleptic laboratories, microbiological and chemical assay areas, and a product development laboratory. A functional and certified pilot plant will serve to develop commercial scale food products and define food processes. A wide array of state-of-the-art scientific instruments, with on-line data management and statistical analysis is in place for analyses, food quality and safety programs, and basic research.

The coming year will present many challenges for the Centre to become an efficient operating enterprise, providing technical expertise and leadership to the food production sectors of the Province's economy. A major thrust will be in the area of food safety which is receiving so much attention. Despite our food supply being perhaps the safest in the world, and perhaps the safest it has ever been, there still remains a great deal of scepticism in sectors of the general public on the matter of food safety. One of our most important tasks will be to provide the public with accurate information leading to increased confidence in our food systems.

At the same time, operating and management systems will be developed to provide increased efficiencies and control over our operations. These are rapidly expanding both in the number of clients being served and in the complexities and values of the projects, and require substantial management and financial planning in order to fulfil our mandate.

On behalf of the Board of Directors, I wish to extend our thanks and appreciation to the P.E.I. Development Agency and the Minister of Industry, as well as to our many clients for their support and encouragement during the past year.

Richard F. Ablett

MESSAGE FROM THE EXECUTIVE DIRECTOR

The Prince Edward Island Food Technology Centre continued to grow and expand during the 1989-90 fiscal year. With the new facility in place, FTC staff were better able to concentrate on the Centre's mandate. Because of rapid growth during this period, staff were faced with delivery of an increasing workload of research and development support for industry-sourced projects emanating from both the agricultural and fisheries sectors. Over the last twelve months, FTC initiated 38 new projects within the Industrial Interaction and Development Initiative Divisions of the Centre. $321,800 was raised in project recovery which was used to supplement the cost of both industry and in-house R & D projects.

In order to meet industry demand, total staffing of the Centre increased during the 1989-1990 fiscal year from 17 to 22 full-time personnel. New staff members are Sri Madhaystha, Ph.D., Research Associate, Joy Shinn, M.Sc., Project Officer, Stephen P. Gould, Dip. Chem., Senior Technician, Doug MacNevin, Pilot Plant Operator/ Building Manager, and Shawn Wakelin, Custodian. The Centre now employs 17 technical and 5 administrative staff members, as well as two project technologists who are employed by private sector companies and affiliated with the Centre.

Prince Edward Island has traditionally performed at less than 25 percent of the national average in terms of research and development activity because of a general lack of infrastructure and critical mass to perform R & D. This situation is changing rapidly with the advent of the P.E.I. Food Technology Centre and the Atlantic Veterinary College, as well as a planned Agriculture Canada research facility. FTC has the required staffing, equipment and facilities to provide both the catalyst and executing venue for credible research and development in support of the major food industry sectors of the province. FTC is currently promoting the significance and ramifications of systematic R & D efforts to the major food industry groups of P.E.I.

As the Centre enters its final phase of start-up, FTC staff are openly challenging the industry base to assess their strategic technical positioning five years hence. Some results are beginning to emerge, for example, the Seafood Producers Association has responded to the challenge by initiating, through FTC facilities, a product diversification strategy to expand upon the key processed lobster products from P.E.I.

R & D issues of significance are currently under review by the potato industry with particular attention in the area of pesticides. FTC will assume a significant support role in 1990-91 in provision of analytical services to this industry. The Province has requested FTC to establish a "Food Safety Quality Assurance" program to provide quality assurance assistance to both the fisheries and agriculture sectors. Microbiological and QMP services will be provided to the fisheries sector, and pesticide screening services will be established in response to the needs of the potato and vegetable industry of P.E.I. Staffing and analytical equipment bases are being adjusted to accommodate the needs of this program.

As a new organization, efforts have been made to increase the Centre's visibility through various means. Through its involvement with associations such as Canada Committee on Food (CCF), National Research Council of Canada (NRC), and the Atlantic Food Research and Development Association (AFRADA), FTC continues to build credibility as a research facility. Continuing presentations focused on FTC efforts, through planned and coordinated media interaction, in addition to preparation and distribution of a video describing Centre activities, have also helped to elevate the profile of FTC over the past twelve months. Development of a comprehensive brochure package is currently underway to assist in further introducing FTC to the Atlantic region and beyond.

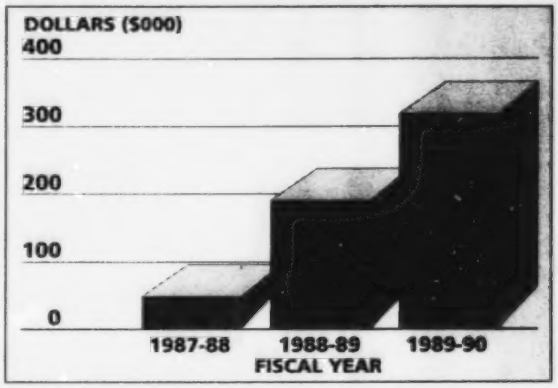
GRAPHICAL REPRESENTATION OF FTC'S PROGRESS

In addition to the provincial government contribution to the Centre's operating budget, FTC has earned a gross revenue of $321,838 through fee-for-service contracts with private sector and government. This represented a 68% increase in project revenue over the previous fiscal year and provided 26% of the Centre's total annual requirements. The total value of new contracts signed in this fiscal year exceeded $400,000 with a significant portion committed to the following fiscal year.

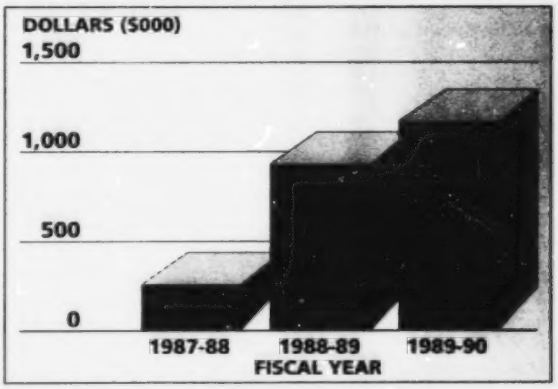
The Centre's commitment to cost recovery allowed for continued expansion of the scientific and technical service to local industry and brought it closer to the self-sufficiency objective of 30 to 35 per cent.

The success of the Centre's cost recovery program is attributable to the coordination of effort between the Centre and agencies of the government in the service of local industry. These agencies includ National Research Council, Atlantic Canada Opportunities Agency, Industry Science & Technology Canada, and the Departments of the provincial government. Collectively, these agencies provide services to industry in the development, transfer, and adaption of food technologies pertinent to the region.

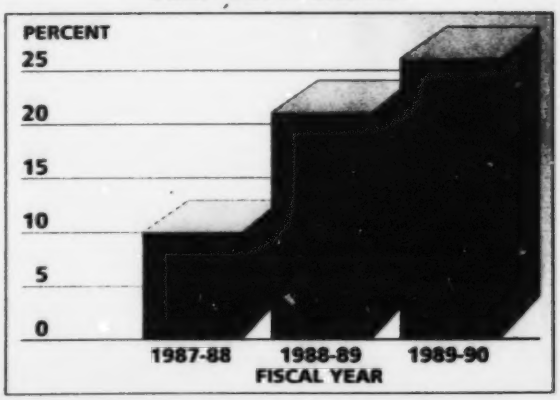
CONTRACT REVENUE



ANNUAL NET OPERATING REQUIREMENTS (Total Expenses)



DEGREE OF SELF-SUFFICIENCY



FTC INVOLVEMENT WITH P.E.I. INDUSTRY

Sensory Analysis of Potatoes

Being involved in the market development of P.E.I. potatoes, the P.E.I. Department of Agriculture requested that FTC investigate the sensory quality and suitability of microwave cooking of seven cultivars of P.E.I. potatoes. There has been a considerable increase in the demand for conveniently prepared foods including the potato. The question which arose was "which cultivars of P.E.I. potatoes produce the best microwave-cooked product?"

Sensory analysis ensures that products provide the sensory characteristics required to meet consumer expectations.

Within the same study, FTC performed analysis of the most important nutrients in the cultivars. The cultivars tested were Sangre, Yukon Gold, Russet Burbank, Superior, Kennebec, Bintje, and Shepody. FTC arranged to have this work carried out in Ontario where there is a large market for P.E.I. potatoes. The potatoes were shipped out at three time intervals throughout the storage season and tested by a sensory panel for appearance, odour, taste, texture and overall acceptability. Preliminary work was undertaken to determine optimum cooking time for the different cultivars.

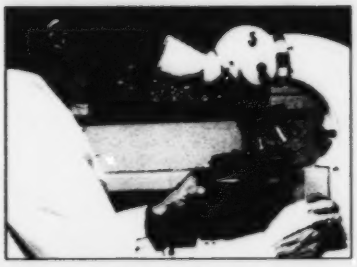
The results indicated that all seven cultivars tested were acceptable for microwave cooking and yielded products which consumers would like. Some cultivars showed special promise. Yukon Gold was very highly rated mid to late season. Superior and Shepody were highly rated throughout the season.

The results of this sensory analysis, as well as the nutrient analysis, provide important input towards generating a database on the composition of P.E.I. potatoes which had not existed previously and which will be expanded annually.

Domoic Acid Research

In the autumn of 1987, the mussel farms of Prince Edward Island were hit by a mysterious toxin, domoic acid, which caused sickness and in some cases even death to many people who ate the mussels. The mussel industry was faced with closures of their harvesting sites during their most lucrative season of the year. Problems with domoic acid recurred in 1988, and again some mussel farms were temporarily closed.

As there was little hope of controlling marine events that triggered the growth of the toxic algae, the source of the problem, it was important to determine whether contaminated mussels could be purified and made safe for human consumption. The Food Technology Centre responded to the needs of the P.E.I. Mussel Growers Association by embarking upon a two year, NRC-funded research program. The aim was to determine whether either processing of mussel meats or the treatment of live animals would be effective in removing domoic acid. For the live animal work, a collaborative team was set up involving scientists from the Atlantic Veterinary College, which has a Fish Health Unit.



FTC responded to the needs of the mussel industry following the discovery of domoic acid in Prince Edward Island mussels.

Various processing techniques were found to be ineffective in reducing domoic acid levels in mussel meats. However, results from live animal trials were most encouraging. When toxic mussels were maintained in an active, healthy condition in running seawater culture, they defecated most of their domoic acid within 72 hours. This procedure was effective over a wide range of temperatures and salinities and required only the facilities normally found in mussel processing plants. Experimental conditions of temperature and salinity were set up to mimic the conditions in local mussel processing facilities in autumn. The results strongly suggested that the procedure would be valuable for cleansing mussels in an industrial setting.

Fortunately for the mussel industry, the domoic acid problem has regressed in the past year. However, should the toxin reappear in mussels in the future, the industry now has a firm scientific basis for developing industrial decontamination of mussels if that becomes necessary to maintain market supplies of the shellfish.

Fishcake Development

FTC assists in the development of a traditional style fishcake for Meadowbank Fine Foods Inc.

Island Saltfish Inc., a producer of traditional saltfish, was established in 1983 to complement the existing Island fishing industry. In response to the changing marketplace, Island Saltfish established a new company, Meadowbank Fine Foods Inc., and initiated the development of a value-added product that was once a basic part of the Atlantic diet - the traditional homemade fishcake. FTC was approached to develop a traditional style fishcake for commercial use and determine process and packaging methods for the product.

This traditional food item is not produced readily in Atlantic Canadian homes today because of the "inconvenient" aspects of its production. Commercially prepared fishcakes that generally use lower quality fish in a deep fried batter, now exist on the market. They do not, however, reflect the traditional taste or the texture of the homemade original. The basic recipe for the product was developed at the DeSable facilities of Island Saltfish Inc. and market tested on Prince Edward Island with positive and encouraging results, providing the incentive to refine the recipe for commercial application.

FTC responded to this challenge by assessing basic ingredients, scaling the product up to pilot plant capacity, determining staffing requirements, researching packaging legislation, completing nutritional analysis of the product, and undertaking sensory analysis of the product with a trained consumer panel.

Results of the pilot-scale project provided Meadowbank Fine Foods Inc. with a traditional style product suitable for commercial use. This value added product is intended to be the first in a series for Meadowbank Fine Foods.

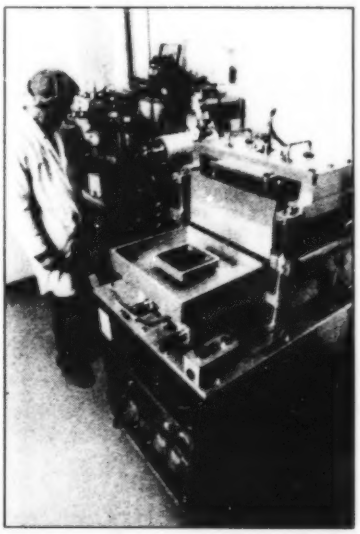
Modified Atmosphere Packaging

The P.E.I. Horticultural Association (PEIHA) was established in 1975 by a group of small fruit and vegetable growers to develop and expand existing markets for their produce. Grading of rutabagas, carrots and other vegetables results in large quantities of undersized, misshapened or blemished raw material of marginal value. In conjunction with the P.E.I. Vegetable Growers' Cooperative, the PEIHA has been exploring options to better utilize grade-out vegetables in their packing plant.

In 1988, the PEIHA engaged the services of FTC to investigate the potential of extending the shelf-life of a limited range of horticultural products using "modified atmosphere packaging" (MAP) technology. MAP technology attempts to control spoilage of food products by displacing most or all oxygen surrounding the product within a package. Elevated respiration rates in some fruits and vegetables encouraged by ambient temperatures and atmospheric oxygen (0_2) leads to rapid ripening. Low levels of 0_2 established in a permeable polymeric package and maintained at temperatures of 1 - 2°C have been found to significantly prolong shelf-life of pre-cut and diced vegetables.

FTC compared MAP to air-packaging of fresh strawberries, broccoli florets, and strips of fresh-cut rutabagas. Results of the investigation indicated that fresh strawberries held under MAP conditions were of acceptable quality for up to 7 - 8 days. Air-packaged rutabaga strips in a high permeability package maintained good quality for up to 28 days. Broccoli florets were of acceptable quality for 9 and 12 days under air packaging and MAP, respectively.

The project demonstrated that MAP and, in some cases air-packaging, will successfully extend the quality of a select range of horticultural products. FTC and PEIHA concluded that, due to variation in respiration rates among commodities and the unavailability of high permeability film with structural integrity, additional research is required.



FTC investigates the potential of extending the shelf-life of some fruits and vegetables using modified atmosphere packaging.

AFFILIATIONS

National Research Council of Canada

A contribution arrangement between the National Research Council (NRC) and FTC provides funding to support an Industrial Technology Advisor (ITA) on staff at FTC.

The employment of an experienced ITA has enabled FTC to increase its project base through active delivery of NRC's Industrial Research Assistance Program (IRAP) to food sector clientele on Prince Edward Island. Using IRAP resources, FTC has participated in the development of new products and processes such as milk-based pet foods and freezing of in-shell mussels for the agricultural and fisheries processing sectors.

The presence of an ITA on staff allows for early IRAP input into the planning stages of FTC projects with clients. Access to the IRAP network of ITA's through this contribution arrangement allows for mutual exchange of information and benefits clients directly through a more cost-effective delivery of services.

The presence of an ITA on staff allows for early input into the planning stages of FTC projects with clients.

Hon. Elmer MacKay, Minister Responsible for ACOA, joined provincial representatives to officially open FTC on March 2, 1990.

Atlantic Canada Opportunities Agency

The Atlantic Canada Opportunities Agency (ACOA) has been a major contributor towards the development of FTC. ACOA contributed $2.5 million for the construction of the new 15,000 sq. ft. facility on the campus of UPEI in support of research and development for Island firms. ACOA continues to support FTC initiatives through its Action Program. During the past year, FTC was able to provide technical assistance to companies such as Island Saltfish Inc., P.E.I. Horticultural Association, England Fur Farms, and the P.E.I. Mussel Growers Association, with the financial support of ACOA.

Atlantic Food Research and Development Association

AFRADA, an association spearheaded by FTC, is comprised of the heads of major food research institutes in Atlantic Canada. During the 1989-90 fiscal year, meetings were held at the Marine Institute in St. John's, Newfoundland and at Moncton University in Moncton, New Brunswick. Invited speakers at the St. John's meeting included Mr. David King of the Canadian Centre for Fisheries Innovation, who gave a presentation on C.C.F.I.'s position and mandate. At the Moncton meeting, Mrs. Elizabeth Larmond of Ottawa, gave a presentation on Agriculture Canada's National Policy. Also, Mr. Dick Whalen outlined Department of Fisheries & Oceans position regarding processing plant inspections, listeria screening, and QMP (Quality Manufacturing Practices) responsibilities.

AFRADA is an informal forum for information exchange among the Atlantic food research organizations.

F.T.C. ENTERPRISES LIMITED

FINANCIAL STATEMENTS
FOR THE YEAR ENDED
MARCH 31, 1990

AUDITORS' REPORT TO THE SHAREHOLDERS

We have examined the balance sheet of F.T.C. Enterprises Limited as at March 31, 1990 and the statements of income and retained earnings and changes in the financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the company as at March 31, 1990 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Coopers & Lybrand

CHARTERED ACCOUNTANTS

BALANCE SHEET AS AT MARCH 31, 1990

ASSETS

	1990 $	1989 $
CURRENT ASSETS		
Cash and short-term deposits	160,046	1,488,251
Accounts receivable	25,672	106,077
Grant receivable	459,347	-
	645,065	1,594,328
GRANT RECEIVABLE	-	93,447
FIXED ASSETS (note 3)	2,930,367	447,407
	3,575,432	**2,135,182**

LIABILITIES

CURRENT LIABILITIES		
Accounts payable and accrued liabilities	46,588	192,252
Holdbacks payable	42,747	29,199
Deferred revenue	13,000	58,120
	102,335	279,571
DEFERRED CREDIT - less accumulated amortization of $208,975 (1989 - nil)	2,291,025	934,471
	2,393,360	**1,214,042**

SHAREHOLDERS' EQUITY

CAPITAL STOCK (note 5)	100	100
CONTRIBUTED SURPLUS (note 6)	991,040	921,040
RETAINED EARNINGS	190,932	-
	1,182,072	921,140
	3,575,432	**2,135,182**

SIGNED ON BEHALF OF THE BOARD

Director

Director

STATEMENT OF INCOME
FOR THE YEAR ENDED MARCH 31, 1990

	1990 $	1989 $
REVENUE		
Grants - Province of Prince Edward Island (note 6)	1,012,600	697,345
National Research Council	78,893	46,980
Project Recoveries	242,945	143,850
	1,334,438	**888, 175**
EXPENSES		
Salaries and benefits	612,572	477,657
Project costs	263,778	188,013
Office	22,210	16,597
Lab and field supplies	16,597	2,028
Telecommunications	39,341	27,427
Rent and occupancy costs	62,436	26,216
General administration	9,004	9,279
Printing	3,733	5,963
Advertising and promotion	26,096	3,048
Publications	20,919	17,063
Professional fees	16,963	29,228
Travel, training and relocation	43,725	67,459
Doubtful accounts	16,808	-
Depreciation	289,430	39,409
	1,443,612	909,387
	(109,174)	(21,212)
OTHER INCOME		
Interest	91,131	21,212
Amortization of deferred credit	208,975	-
	300,106	21,212
NET INCOME FOR THE YEAR	190,932	-
RETAINED EARNINGS - BEGINNING OF YEAR	-	-
RETAINED EARNINGS - END OF YEAR	**190,932**	-

STATEMENT OF CHANGES IN FINANCIAL POSITION FOR THE YEAR ENDED MARCH 31, 1990

	1990 $	1989 $
OPERATING ACTIVITIES		
Net income for the year	190,932	-
Items not affecting cash -		
Depreciation	289,430	39,409
Amortization of deferred credit	(208,975)	-
	271,387	39,409
Net decrease (increase) in non-cash working capital balances related to operations	(556,178)	142,052
	(284,791)	181,461
INVESTING ACTIVITIES		
Increase (decrease) in grant receivable	93,447	(93,447)
Purchase of fixed assets	(2,772,390)	(444,828)
	(2,678,943)	(538,275)
FINANCING ACTIVITIES		
Increase in deferred credit	1,565,529	934,471
Increase in contributed surplus	70,000	755,255
	1,635,529	1,689,726
INCREASE (DECREASE) IN CASH	(1,328,205)	1,332,912
CASH - BEGINNING OF YEAR	1,488,251	155,339
CASH - END OF YEAR	160,046	1,488,251

NOTES TO FINANCIAL STATEMENTS FOR THE YEAR ENDED MARCH 31, 1990

1. ACCOUNTING POLICIES

The financial statements of the company have been prepared in accordance with generally accepted accounting principles. The following is a summary of significant accounting policies used in the preparation of these financial statements.

Depreciation
Depreciation of fixed assets is calculated using the straight-line method at the following annual rates:

Building	5%
Pilot plant and laboratory equipment	10%
Laboratory supplies	50%
Computer and audio visual equipment	33 1/3%
Office furniture and equipment	20%

A full year's depreciation is taken in the year of acquisition.

Deferred Credit
The company has adopted the policy that contributions from the Atlantic Canada Opportunities Agency towards the acquisition of fixed assets will be deferred and amortized to income on the same basis as the related fixed assets are depreciated.

Revenue Recognition
The company follows the percentage completion method of accounting for revenue and expenditures on project contracts. The percentage of completion method records the company's estimated profit based on the expenditures incurred and work completed on each contract in progress.

2. CORPORATE STATUS

The company is a wholly-owned subsidiary of a crown corporation, the Prince Edward Island Development Agency and is therefore a non-taxable entity.

3. FIXED ASSETS

	1990			1989
	Cost $	Accumulated Depreciation $	Net $	Net $
Building	2,252,685	112,634	2,140,051	353,645
Pilot plant and laboratory equipment	726,327	75,512	650,815	20,884
Laboratory supplies	114,921	57,500	57,421	-
Computer and audio visual equipment	98,220	67,089	31,131	38,053
Office furniture and equipment	82,657	31,708	50,949	34,825
	3,274,810	**344,443**	**2,930,367**	**447,407**

4. LEASE

The company has entered into a twenty-five year lease with the University of Prince Edward Island for the lease of land upon which the corporation has constructed its new facilities. The lease cost is $1 per year and is renewable for a further term of twenty-five years for the same annual consideration.

5. CAPITAL STOCK

	1990 $	1989 $
Authorized, issued and fully paid -		
100 common shares of the par value of $1 each	100	100

6. GRANTS FROM THE PROVINCE OF PRINCE EDWARD ISLAND

During the year, the company received the following grants:

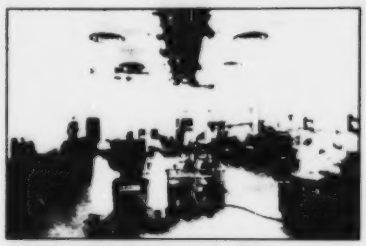
	1990 $	1989 $
Operating	1,012,600	697,345
Contributed surplus	70,000	755,255
	1,082,600	**1,452,600**

7. GENERAL

The company operates under the name of Prince Edward Island Food Technology Centre.

BUSINESSES ASSISTED

Polar Cold Storage
England Fur Farms Ltd.
Island Cultured Fish Co-Op
P.E.I. Soup Company
New Wave Shellfish Farm
Find Food Investments Ltd.
Burns Poultry Farm
Belle River Enterprises Ltd.
Aquaculture Consultants Inc.
Eastern Paper Products
Eric C. Robinson Inc.
Island Saltfish Co.
Johnston's Homestyle Products
Perfection Foods Ltd.
Seaman's Beverages Ltd.
Garden Province Meats
Lobster Specialties Ltd.
Rum Runners Ocean Products
Stella Maris Ltd.
Cavendish Farms
Amalgamated Dairies Ltd.
Balderston's Produce
C & L Seafoods (Canada) Ltd.
Prestige Farms
Health Pasteurized Milk Co.
Beinn Mara Apiaries
Wendall Graham (1981) Limited
Canadian Gourmet Foods Ltd.
Atlantic Fish Specialists
Montague Dairies Ltd.
Victoria Seafoods Inc.
Meadowbank Fine Foods Ltd.
Goodall Farms



A federally inspected pilot plant, equipped for a variety of processes, is used to support in-house research and development projects and is available for processing and test market production runs for clients.

ASSOCIATIONS AND GOVERNMENT AGENCIES ASSISTED

P.E.I. Horticultural Association
P.E.I. Cultured Mussel Growers Association
Industry Science & Technology Canada
P.E.I. Blueberry Growers Association
P.E.I. Seafood Processors Association
P.E.I. Department of Agriculture
Agriculture Canada
Department of Energy and Forestry

FTC laboratories provide an extensive range of analytical capability.

STAFF PUBLICATIONS

Published Research Papers

ABLETT, R.F., Marr, C.R., and Roberts, J.D., (1989). Influence of Chronic Subsurface Retention on Swimming Activity of Atlantic Salmon (*Salmo salar*) in Cold Temperature Conditions. **Aquaculture Engineering 8(1):1-15.**

AZAM, K., Mackie, I.M. & Smith, J., (1989). The Effect of Slaughter Method on the Quality of Rainbow Trout (*Salmo gairdneri*) During Storage on Ice, *International Journal of Food Science and Technology*, 24, 69-79.

Published Proceedings

SIMS, D.E., Hanic, L.A., Connell, B.J., Novaczek, I., Ablett, R.F., Nijjar, M.S., Johnson, J.R., and Horne, M., (1990). Techniques for preservation of extracellular mucus: Evaluation with the diatom Nitzschia pungens and rat tracheal epithelium. Pro. Micro. Soc. Can. 56-57.

SPENCER, K.E., Hotton, C., Tung, M.A. and Ablett, R.F., (1989) Production and Utilization of Surimi from Atlantic Species. Technical Report; Federal Department of Fisheries and Oceans. 95 pp.

Technical Reports

SHINN, J. M., (1989). Concentrated Herb Paste stabilized in a Vegetable Oil Shortening and Sunflower Oil Mixture. A research report prepared for P.E.I. Food Technology Centre.

SHINN, J. M., (1990). The Utilization of Whey. A research report submitted to Perfection Foods Ltd.

SHINN, J. M., (1990). Frozen Product Stability Analysis: I.Q.F. Prince Edward Island Cultured Mussels (*Mytilus edulis*) that Incorporated Patented European Freezing Technology. A research report submitted to C & L Seafoods (Canada) Ltd.

SMITH, J., (1989). Evaluation of Microwave Cooking Performance of P.E.I. Tablestock Potatoes. A research report submitted to P.E.I. Department of Agriculture.

SMITH, J., (1989). Organoleptic Evaluations of Lobster Maintained Under Various Holding Systems. A research report submitted to Victoria Seafoods.

KAWUKI, M., (1989). Handling Guidelines During the Mussel Spawning Period for the Prince Edward Island Mussel Processing Industry. A research report for P.E.I. Food Technology Centre.

KAWUKI, M., (1989). Strategic Products and Options in the Secondary Processing of the Island Blue Cultured Mussel (*Mytilus edulis*) on Prince Edward Island. A research report for the P.E.I. Food Technology Centre.

LECLAIR, R. J., (1990). The Effects of Modified Atmosphere Packaging, Vacuum Packaging and Air Packaging in Combination with Antioxidants on the Quality and Storage Life of Chilled Rutabaga Strips. An interim report prepared for the P.E.I. Horticultural Association.

NOVACZEK, I., Madhyastha, S., Ablett, R., Johnson, G., Nijjar, M.S., and Sims, D., (1990). Depuration of Domoic Acid From Island Blue Mussels. An interim report prepared for the P.E.I. Mussel Growers Association.

MAILMAN, R.E.P., (1989). Alfalfa Pellets, Prepared for Market as a Cat Litter. A research report submitted to Industry.

MAILMAN, R.E.P., (1989). To Conduct Comparative evaluations of "Olde Barrel" Potato Chips. A research report submitted to P.E.I. Potato Chip Co-Op.

A well-equipped product development laboratory is used to develop concepts and perform product trials.

MARR, C.R., Mailman, R.E.P., Shinn, J.M. (1989). Review of Canola Processing and its potential in Prince Edward Island. A research report prepared for the P.E.I. Department of Agriculture.

CONFERENCE PRESENTATIONS

ABLETT, R. F., Strategic Overview. Presentation to Prince Edward Island MLA's. 1989.

ABLETT, R. F., P.E.I. Food Technology Centre. Presentation to the P.E.I. Marketing Council. 1990.

ABLETT, R. F., "Role of P.E.I. Food Technology Centre Working with the P.E.I. Fishery". Presentation on behalf of Department of Fisheries & Aquaculture. 1990.

LECLAIR, R. J., "Recent Advances in Modified Atmosphere Packaging (MAP) for Fresh Fruits and Vegetables". Presentation to the P.E.I. Horticultural Association Annual Meeting. 1990.

LECLAIR, R. J., "Options for Fish and Shellfish Packaging in the P.E.I. Seafood Retailing Industry". Presentation to the P.E.I. Retailers Association Annual Meeting. 1990.

MADHYASTHA, S., Novaczek, I., Ablett, R.F., Johnson, G., Nijjar, M.S. and Sims, D.E., (1990). Uptake, distribution and clearance of domoic acid by mussels. Workshop on Harmful Algae, Bedford Institute of Oceanography, Halifax, Canada.

NOVACZEK, I., "Techniques for Preservation of Extracellular Mucus". Presented to the Microscopical Society of Canada. 1989.

NOVACZEK, I., MADHYASTHA, S., "Strategies for stimulating uptake and depuration of domoic acid in blue mussels." Presented at the Canadian Workshop on Harmful Marine Algae. Moncton, N.B. 1989.

NOVACZEK, I., MADHYASTHA, S., "Depuration of Domoic Acid". Presented at the Workshop on Shellfish Sanitation. Charlottetown, P.E.I. 1990.

NOVACZEK, I. "Public Health Aspects of Fish as Food". A short course presented to students of the Culinary Institute. Charlottetown, P.E.I.,1989.

O'ROURKE, T. "Marketing 1990, Scallop Workshop, Mariculture and Rural Development". Bantry Shellfish Conference, Bantry, Ireland.

PATENTS

Yamamoto, Shoji
Patent Filing International Date (09/01/90): Title; Process for Making Creamy Proteinaceous Fat-Substituting Material, and Material So Produced.

FTC staff provide innovation and technical support to the Island's food industry.

PARTICIPATION IN WORKSHOPS

Aquaculture Conference. Atlantic Veterinary College. April 1, 1989.

Agriculture and Your Business. C.P. Prince Edward Hotel. April 4, 1989.

National University Week. University of Prince Edward Island. Open House. October 21-22, 1989.

Agriculture Conference. C.P. Prince Edward Hotel. November 29-30, 1989.

STAFF ATTENDANCE AT NATIONAL & INTERNATIONAL MEETINGS

Canadian International Food Science & Technology (CIFST) Annual Conference, Quebec City, P.Q., June, 1989.

Institute of Food Technologists (IFT) 10th Annual Conference, Chicago Illinois, June, 1989.

Atlantic Food Research and Development Association (AFRADA) Meeting, St. John's, Nfld, August, 1989.

34th Annual Atlantic Fisheries Technological Conference, St. John's, Nfld., August, 1989.

World Food Market - Anuga, Cologne, France, September, 1989.

Canadian Workshop on harmful Algae, Department of Fisheries & Oceans, Gulf Region, Moncton, N.B., September, 1989.

Annual National Packaging Exhibition "Pac-Ex", Toronto, Ontario, September/October, 1989.

Laboratory Equipment Exhibition and Conference, Industrial Trade & Consumer Show, Montreal, P.Q., October, 1989.

New England Food & Drug Officers Association Meeting on Food Safety (NEFDOA), St. John, N.B., October, 1989.

20th Annual Canadian Computer Show, Toronto, Ontario, October, 1989.

International Conference on Molluscan Shellfish Depuration, Orlando, Florida, November, 1989.

Follow-up on opportunities for technology transfer with U.K. food processors, December 1989, January, 1990.

Swine Genetics Seminar and ROP Station (Napan) Visit, Kentville, N.S., February, 1990.

Applied Fish Technology Short Course, Canadian Institute Fisheries Technology, Technical University of Nova Scotia, Halifax, N.S., February, 1990.

CIFST New Brunswick - Prince Edward Island Section Seminar on "Continuous Quality Improvement and Quality Assurance Management", St. John, N.B., March, 1990.

Boston Seafood Annual Conference and Trade Show, Boston, Mass., March, 1990.

COMMITTEE APPOINTMENTS

RICHARD F. ABLETT
- Member, Canada Committee on Food, Ottawa
- Chairman, Task Force on Technology Transfer, Ottawa
- Chairman, Atlantic Food Research and Development Association

TOM O'ROURKE
- Member, Approval Committee, Technology Acquisition and Development Program. ID Sub Agreement Industry.
- Member, Biotechnology Advisory Group, IRAP. National Research Council.
- Implementation and Training, (Atlantic), Release 1-2 Database. National Research Council.

JIM SMITH
- P.E.I. representative, Canadian Federal-Provincial Biotechnology Workshop
- Member, Advisory Committee on Food Processing and Engineering

GEORGE WRIGHT
- Chairman, Maritime Procurement Agreement, Assessment Review Committee, Council of Maritime Premiers.

JOY M. SHINN
- Director, P.E.I./N.B. division of the Canadian Institute of Food Science and Technology.

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